A#42 PROOF BY CONTRADICTION

AEM questions are taken from past exam papers - they have been carefully chosen to represent a typical exam question at each level of difficulty. If you can do these questions, you’re ready to move onto past papers for this topic.

APPRENTICE

Prove by contradiction that if $n^2$ is a multiple of 3, $n$ is a multiple of 3.

EXPERT

Prove by contradiction that $\sqrt{2}$ is irrational.

MASTER

If $a^2 + b^2 = c^2$, where $a, b, c \in \mathbb{Z}$, prove by contradiction that at least one of $a, b$ or $c$ must be even.